

species, which tend to have very reduced dentition, retain a strong antennal club.

The mandibles of *Tropidomyrmex* are completely different from all other solenopsidine genera, with only a single curved apical tooth. Most of these differences may be related to the evident reductions that characterize *Tropidomyrmex*. The most striking character, however, is the presence in *T. elianae* workers of a clearly visible promesonotal suture (Figs. 10B, 10C), which is completely lacking in ergatoids.

Bolton (2003) recognized three genus groups within the Solenopsidini; *Tropidomyrmex* fits better within the *Carebara* genus-group. Judging from Ettershank's scheme (1966), *Tropidomyrmex* would be classified in his *Megalomyrmex* genus group within Solenopsidini, based on the antennal count, clypeus shape, and relative position of the anterior tentorial pits. *Tropidomyrmex* shares some characteristics with the solenopsidine *Tranopelta* Mayr and the recently described *Dolopomyrmex* Cover & Deyrup (2007): delicate and unpigmented female integument; strongly convex, non-carinate clypeus; antennal count; comparatively reduced wing venation; a broad attachment of postpetiole to gaster; specialized larval morphology (not known for *Dolopomyrmex*), and the apparent cryptobiotic habits. However, *Tropidomyrmex* workers differ from these genera in having a single apical tooth on the mandibles instead of four to five, a palpal formula of 2,1 instead of 3,2 or 4,3, and an antennal club with a single segment instead of three.

The venom apparatus of *Tropidomyrmex elianae* is extremely delicate, and it was very hard to dissect without losing the connections among plates. This is why in Figure 5, some parts do not have their ends depicted. Comparing the venom apparatus of *T. elianae* with other Myrmicinae studied by Kugler (1978), it seems closer to *Solenopsis* and related genera, by the square spiracular plate, the one-segmented gonostylus and the overall shape of the oblong, triangular and quadrate plates. However, Kugler's classification of genera is very different from Bolton's scheme (2003), which hinders these comparisons.

According to Wheeler & Wheeler (1976), *Tranopelta* larval mandibular shape is classified as pristomyrmecoid, shared with the Ponerinae *Pachycondyla* (*Hagensia*), Pseudomyrmecinae (*Pseudomyrmex* and *Tetraponera*), and several unrelated Myrmicinae. The closest mandibular shape to *Tropidomyrmex*, using Wheeler and Wheeler (*op. cit.*) criteria, is anergatidoid [recorded only in *Pheidole* (= *Anergatides*)], although in *Tropidomyrmex* the mandible does not bear an apical denticle. Following these authors, only *Bothriomyrmex*, *Technomyrmex* and *Apterostigma* present larval mandibles so short that they do not even meet, as in *Tropidomyrmex*.

Overall, most of the distinctive characters of this new genus appear to represent reductions in characters normally present in females of solenopsidine genera: fewer ommatidia, reduced mandibular dentition, reduced body size and shape, the fragility of the integument, fused and reduced structures of the venom apparatus, and reduced male wing venation. This may be related to the special habits adopted by these ants. It is noteworthy that *T. elianae* has been collected inside a chamber within a ground termite nest, but it is known also from two free-living workers extracted from the leaf-litter of two very close sites in central Brazil. From the very scanty information we have, it is not possible to ascertain whether the type series represents a whole colony or a fragment, and also it is not possible to be sure whether these ants always live inside termite nests.

Dr Phillip Ward is presently engaged in a broad molecular phylogenetic analysis of a wide variety of Myrmicinae. He kindly sequenced a sample of the genus described here, and his preliminary results justify both our treatment of it as a distinct genus and placement in Solenopsidini. *Tropidomyrmex* falls into a clade with *Solenopsis*, *Monomorium* and related taxa, i.e., Solenopsidini *sensu stricto*, but it is not in *Solenopsis*; rather it is positioned as sister to several other solenopsidine genera (including *Monomorium* and *Anillomyrma*) (Ward, pers. comm.).

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